

ABSTRACT OF THE DISCLOSURE

An optical add/drop multiplexor usable in a WDM optical communications system that can be re-configured to add and/or drop new arbitrarily selected wavelengths without adversely impacting added, dropped, or expressed traffic that is already provisioned. . The optical add/drop multiplexor includes an optical add/drop module, an optical signal interleaver, and an optical signal de-interleaver. Re-configuration of the optical add/drop multiplexor is achieved by employing the optical signal interleaver to provide at least one arbitrarily selected wavelength, or combine a plurality of arbitrarily selected wavelengths, to generate added traffic provided to the optical add/drop multiplexor; and, by employing the optical signal de-interleaver to separate at least one arbitrarily selected wavelength from dropped traffic provided by the optical add/drop multiplexor.

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